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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,390	10/21/2003	Mark Duron	SBL01534	2375
22917	7590	02/25/2010	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			JOSEPH, JAISON	
			ART UNIT	PAPER NUMBER
			2611	
			NOTIFICATION DATE	DELIVERY MODE
			02/25/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.US@motorola.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/690,390	<b>Applicant(s)</b> DURON ET AL.	
	<b>Examiner</b> JAISON JOSEPH	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1 – 20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Information Disclosure Statement***

2. The information disclosure statement filed 1/27/2010 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Applicant has not furnished a copy of WO0021204 reference.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms et al (US Patent 6,236,315) in view of Levy et al (US Patent 4,335,214).

Regarding claim 1, Helms et al teach a system comprising a transmitter element creating an interrogation signal and transmitting the interrogation signal (see figure 2,

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element 201, 202, 203, and 204) and a receiver element receiving and demodulating a reflection signal of the interrogation signal and canceling the echo signal in the reflection signal. Helms et al is silent on combining the reflection signal and a feedback signal to cancel at least a portion of radio frequency signals in the reflection. However in analogous art Levy et al teach canceling echo signal in a received signal by combining the reflection signal and a feedback signal to cancel at least a portion of radio frequency signals in the reflection (see figure 3, component 30, Levy et al teach canceling the echo in a received (reflected) signal (output signal of element 45) by combining the received signal and feedback signal (the output of element 33)), wherein the feedback signal comprises the at least a portion of radio frequency echo signals at lower frequencies than a data signal of interest (there is no criticality in this limitation, echo in the signal of interest depend on the system condition. Further paragraph 0021 of present specification discloses that the echo signal in the desired signal can be any frequency. Therefore it matter of design choice to have the feedback signal comprises the at least a portion of radio frequency echo signals at lower frequencies than a data signal of interest ). Therefore it would be obvious to an ordinary skilled in the art at the time the invention was made to use Levy's echo canceller in Helms system. The suggestion or motivation to do so is no synchronization between the transmitter and receiver of the terminal in which it is incorporated and which lends itself to less complex digital implementation (see column 3, lines 10 –15).

Regarding claim 2, which inherits the limitations of claim 1, Levy et al further teach feedback signal is derived by isolating an error component of the reflection signal (see figure 3 element 30).

Regarding claim 3, which inherits the limitations of claim 2, Levy et al further teach the error component of the reflection signal is isolated in one of an in phase signal and a quadrature signal (see inputs to element 32).

Regarding claim 4, which inherits the limitations of claim 2, Levy et al further teach wherein the error component of the reflection signal is isolated by low pass filtering the reflection signal (see element 31).

Regarding claim 5, which inherits the limitations of claim 4, Levy et al further teach the feedback signal is combined with the reflection signal within an impulse response time of a filtering element which is filtering the reflection signal.

Regarding claim 6, which inherits the limitations of claim 1, Helms et al further teach wherein the reflection signal is reflected by a radio frequency tag (see abstract).

Regarding claim 7, which inherits the limitations of claim 1, Helms et al further teach wherein the feedback signal is derived through one of analog processing and digital processing (see column 1, lines 33 – 65).

Regarding claim 8, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 2 is applicable hereto.

Regarding claim 9, which inherits the limitations of claim 8, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 3 is applicable hereto.

Regarding claim 20, which inherits the limitations of claim 1, Helms further teach a single antenna connected to the transmitter element and the receiver element (see figure 3a).

5. Claims 10 – 17 and 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levy et al (US Patent 4,335,214).

Regarding claim 10, Levy et al teach a method comprising the step of demodulating a reflection signal (see the signal received from channel 43 via component 41, 45, 34, and 35) into in-phase and quadrature signal (see figure 3, the demodulator, element 36 and 37), low pass filtering the in-phase signal to isolate an in-phase error signal, low pass filtering the quadrature signal to isolate the quadrature error signal (see figure 3, element 31), modulating the in-phase error signal and quadrature error signal to create a feedback signal (see figure 3, element 32), and combining the reflection signal and the feed back signal to cancel at least a portion of echo signals in the reflection signals (see element 34).

Regarding claim 11, which inherits the limitations of claim 10, Levy et al further teach wherein the first and second filters are configured to isolate a base band error signal at a lower frequency than a data signal of interest (see figure 3).

Regarding claim 12, which inherits the limitations of claim 10, Levy et al further teach amplifying the feedback signal prior to the combining step (the time domain complex transversal filter has the weight taps which controls the amplitude of the signal).

Regarding claim 13, which inherits the limitations of claim 10, Levy et al further teach converting the in-phase signal and the quadrature signal from an analog signal to digital signal (see figure 3, element 35), and converting the in-phase error signal and the quadrature error signal from the digital signal to analog signal (see figure 3, element 33).

Regarding claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 10 is applicable hereto.

Regarding claim 15, which inherits the limitations of claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 11 is applicable hereto.

Regarding claim 16, which inherits the limitations of claim 14, Levy et al further teach the combiner element is one of a splitter and a directional coupler (see figure 3, element 34, 43,45).

Regarding claim 17, which inherits the limitations of claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 12 is applicable hereto.

Regarding claim 19, which inherits the limitations of claim 14, Levy et al are cited as explained in the above paragraph. Levy et al is silent on having a third filter to filter the feedback signal before input into the combiner element. However, at the time the invention was made, it would be obvious to an ordinary skilled in the art at the time the invention was made to use a filter to reduce the noise in the feedback path.

***Allowable Subject Matter***

Claim 18 is allowable over prior art of record.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAISON JOSEPH whose telephone number is (571)272-6041. The examiner can normally be reached on M-F 9:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. J./  
Examiner, Art Unit 2611



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/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611